

ABSTRACT

5 A method and apparatus are provided for  
controlling the quantization level in a digital video  
encoder that comprises a plurality of parallel  
compression engines (12). The input picture is  
partitioned into a number of panels (10) and each panel  
is processed by a distinct compression engine (12). A  
reference quantizer scale is determined before encoding  
a frame of video. The reference quantizer scale is  
10 used at the first slice of every video image panel  
being processed by the video encoder. The quantizer  
scale at the last slice of the image panel is then  
forced to be the same as the first slice. The forcing  
step can use a piecewise-linear feedback formula. A  
15 group of pictures (GOP) target bit rate is adjusted  
based on the number of film pictures and non-film  
pictures currently in the processing pipeline of at  
least one of the compression engines. A higher target  
bit rate is provided for non-film pictures. A buffer  
20 (16) level of the video encoder is used to control the  
start of a new group of pictures (GOP). The start of a  
new GOP is delayed if the buffer (16) does not have  
sufficient space to accommodate an intra-coded (I)  
frame for the new GOP.